
CIRCULAR.

MORTON'S LETHÉON.

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MORTON'S LETHEON.

DEAR SIR:

You are supposed to take sufficient interest in the subject of which this circular treats to admit of an apology for taking the liberty of transmitting the following extracts from the communication of Dr. H. J. Bigelow, one of the surgeons of the Massachusetts General Hospital, in this city, read before the Boston Society of Medical Improvement, Nov. 9th, 1846, and before the American Academy of Arts and Sciences, on the 3d of the same month.

You will observe, that the experiments referred to by Dr. B., were among the earliest to which spectators were admitted; and, although striking and conclusive in themselves, they are, if possible, more than equalled by the numerous operations daily made, under the use of the discovery, in this city, as well as in other places where I have granted licenses for the employment of it.

"It has long been an important problem in medical science to devise some method of mitigating the pain of surgical operations. An efficient agent for this purpose has at length been discovered. A patient has been rendered completely insensible during an amputation of the thigh, regaining consciousness after a short interval. Other severe operations have been performed without the knowledge of the patients. So remarkable an occurrence will, it is believed, render the following details relating to the history and character of the process, not uninteresting.

"On the 16th of Oct., 1846, an operation was performed at the hospital, upon a patient who had inhaled a preparation administered by Dr. Morton, a dentist of this city, with the alleged intention of producing insensibility to pain. Dr. Morton was understood to have extracted teeth under similar circumstances, without the knowledge of the patient. The present operation was performed by Dr. Warren, and though comparatively slight, involved an incision near the lower jaw of some inches in extent. During the operation, the patient muttered, as in a semi-conscious state, and afterwards stated that the pain was considerable, though mitigated; in his own words, as though the skin had been scratched with a hoe. There was, probably, in this instance, some defect in the process of inhalation, for on the following day the vapor was administered to another patient with complete success. A fatty tumor of considerable size was removed, by Dr. Hayward, from the arm of a woman near the deltoid muscle. The opera-

tion lasted four or five minutes, during which the patient betrayed occasional marks of uneasiness; but upon subsequently regaining her consciousness, professed not only to have felt no pain, but to have been insensible to surrounding objects, to have known nothing of the operation, being only uneasy about a child left at home. No doubt, I think, existed, in the minds of those who saw this operation, that the unconsciousness was real; nor could the imagination be accused of any share in the production of these remarkable phenomena. * * * *

The Remarks of the Patients. — “A boy of 16, of medium stature and strength, was seated in the chair. The first few inhalations occasioned a quick cough, which afterwards subsided; at the end of eight minutes the head fell back, and the arms dropped, but owing to some resistance in opening the mouth, the tooth could not be reached before he awoke. He again inhaled for two minutes, and slept three minutes, during which time the tooth, an inferior molar, was extracted. At the moment of extraction, the features assumed an expression of pain, and the hand was raised. Upon coming to himself he said he had had a “first rate dream — very quiet,” he said, “and had dreamed of Napoleon — had not the slightest consciousness of pain — the time had seemed long:” and he left the chair, feeling no uneasiness of any kind, and evidently in a high state of admiration.

“A girl of 16 immediately occupied the chair. After coughing a little, she inhaled during three minutes, and fell asleep, when a molar tooth was extracted, after which she continued to slumber tranquilly during three minutes more. At the moment when force was applied she flinched and frowned, raising her hand to her mouth, but said she had been dreaming a pleasant dream and knew nothing of the operation.

“A stout boy of 12, at the first inspiration coughed considerably, and required a good deal of encouragement to induce him to go on. At the end of three minutes from the first fair inhalation, the muscles were relaxed and the pupil dilated. During the attempt to force open the mouth he recovered his consciousness, and again inhaled during two minutes, and in the ensuing one minute two teeth were extracted, the patient seeming somewhat conscious, but upon actually awaking he declared “it was the best fun he ever saw,” avowed his intention to come there again, and insisted upon having another tooth extracted upon the spot. * * *

“The next patient was a healthy-looking, middle-aged woman, who inhaled the vapor for four minutes; in the course of the next two minutes, a back tooth was extracted, and the patient continued smiling in her sleep for three minutes more. Pulse 120, not affected at the moment of the operation, but smaller during sleep. Upon coming to herself, she exclaimed that “it was beautiful — she dreamed of being at home — it seemed as if she had been gone a month.” These cases which occurred successively in

about an hour, at the room of Dr. Morton, are fair examples of the average results produced by the inhalation of the vapor, and will convey an idea of the feelings and expressions of many of the patients subjected to the process. Dr. Morton states that, in upwards of two hundred patients, similar effects have been produced. The inhalation, after the first irritation has subsided, is easy, and produces a complete unconsciousness at the expiration of a period varying from two to five or six, sometimes eight minutes; its duration varying from two to five minutes; during which the patient is completely insensible to the ordinary tests of pain. The pupils in the cases I have observed have been generally dilated; but with allowance for excitement and other disturbing influences, the pulse is not affected, at least in frequency; the patient remains in a calm and tranquil slumber, and wakes with a pleasurable feeling. * * * *

"Two recent cases serve to confirm, and one I think to decide, the great utility of this process. On Saturday, the 7th Nov., at the Mass. General Hospital, the right leg of a young girl was amputated above the knee, by Dr. Hayward, for disease of this joint. Being made to inhale the preparation, after protesting her inability to do so from the pungency of the vapor, she became insensible in about five minutes. The last circumstance she was able to recall was the adjustment of the mouth-piece of the apparatus, after which she was unconscious until she heard some remark at the time of securing the vessels — one of the last steps of the operation. Of the incision she knew nothing, and was unable to say, upon my asking her, whether or not the limb had been removed. She refused to answer several questions during the operation, and was evidently completely insensible to pain or other external influences. This operation was followed by another, consisting of the removal of a part of the lower jaw, by Dr. Warren. The patient was insensible to the pain of the first incision, though she recovered her consciousness in the course of a few minutes.

"The character of the lethargic state which follows this inhalation, is peculiar. The patient loses his individuality and awakes after a certain period, either entirely unconscious of what has taken place, or retaining only a faint recollection of it. Severe pain is sometimes remembered as being of a dull character; sometimes the operation is supposed by the patient to be performed upon somebody else. Certain patients, whose teeth have been extracted, remember the application of the extracting instruments; yet none have been conscious of any real pain. * * * *

"The duration of the insensibility is another important element in the process. When the apparatus is withdrawn at the moment of unconsciousness, it continues, upon the average, two or three minutes, and the patient then recovers completely or incompletely without subsequent ill effects. In this sudden cessation of the symptoms, this vapor in the air tubes differs in its effects from the narcotics or stimulants in the stomach, and, as far as the evidence

of a few experiments of Dr. Morton goes, from the ethereal solution of opium when breathed. Lassitude, headache and other symptoms lasted for several hours, when this agent was employed.

"But if the respiration of the vapor be prolonged much beyond the first period, the symptoms are more permanent in their character. In one of the first cases, that of a young boy, the inhalation was continued during the greater part of ten minutes, and the subsequent narcotism and drowsiness lasted more than an hour. * * * *

"It is probable that the vapor of the new preparation ceases early to act upon the system, from the facility with which it is exhaled.

"The process is obviously adapted to operations which are brief in their duration, whatever be their severity. Of these, the two most striking are, perhaps, amputations, and the extraction of teeth. In protracted dissections, the pain of the first incision alone is of sufficient importance to induce its use; and it may hereafter prove safe to administer it for a length of time, and to produce a narcotism of an hour's duration. It is not unlikely to be applicable in cases requiring a suspension of muscular action; such as the reduction of dislocations or of strangulated hernia; and finally it may be employed in the alleviation of functional pain, of muscular spasm, as in cramp and colic, and as a sedative or narcotic.

"The application of the process to the performance of surgical operations, is, it will be conceded, new. * * * *

"It is natural to inquire with whom this invention originated. Without entering into details, I learn that the patent bears the name of Dr. Charles T. Jackson, a distinguished chemist, and of Dr. Morton, a skilful dentist, of this city, as inventors — and has been issued to the latter gentleman as proprietor." * * *

The foregoing statements, which are only a portion of the communications of Dr. Bigelow, are alone sufficient, I presume, to enable you to form an opinion of the immediate and very great value of the invention to the afflicted or suffering, as well as to the surgical world. It is employed by, and has received, as you will perceive, the sanction of some of the most skilful and distinguished Dentists and Surgeons. The following are the statements of Drs. Warren and Hayward, of this city, who performed at the hospital the operations alluded to by Dr. B. and other operators, since the time mentioned by him:—

INHALATION OF ETHEREAL VAPOR FOR THE PREVENTION OF PAIN IN SURGICAL OPERATIONS.

By JOHN C. WARREN, M.D.

(Communicated for the Boston Medical and Surgical Journal.)

Application has been made to me by R. H. Eddy, Esq., in a letter dated Nov. 30th, in behalf of Dr. W. T. G. Morton, to fur-

nish an account of the operations witnessed and performed by me, wherein his new discovery for preventing pain was employed. Dr. M. has also proposed to me to give him the names of such hospitals as I know of in this country, in order that he may present them with the use of his discovery. These applications, and the hope of being useful to my professional brethren, especially those concerned in the hospitals which may have the benefit of Dr. M.'s proposal, have induced me to draw up the following statement, and to request that it may be made public through your Journal.

The discovery of a mode of preventing pain in surgical operations, has been an object of strong desire among surgeons from an early period. In my surgical lectures I have almost annually alluded to it, and stated the means which I have usually adopted for the attainment of this object. I have also freely declared, that notwithstanding the use of very large doses of narcotic substances, this desideratum had never been satisfactorily obtained. The successful use of any article of the materia medica for this purpose, would therefore be hailed by me as an important alleviation to human suffering. I have in consequence readily admitted the trial of plans calculated to accomplish this object, whenever they were free from danger.

About five weeks since, Dr. Morton, dentist of this city, informed me that he had invented an apparatus for the inhalation of a vapor, the effect of which was to produce a state of total insensibility to pain, and that he had employed it successfully in a sufficient number of cases in his practice to justify him in a belief of its efficacy. He wished for an opportunity to test its power in surgical operations, and I agreed to give him such an opportunity as soon as practicable.

Being at that time in attendance as Surgeon of the Massachusetts General Hospital, a patient presented himself in that valuable institution a few days after my conversation with Dr. Morton, who required an operation for a tumor of the neck; and, agreeably to my promise, I requested the attendance of Dr. M.

On October 17th, the patient being prepared for the operation, the apparatus was applied to his mouth by Dr. Morton for about three minutes, at the end of which time he sank into a state of insensibility. I immediately made an incision about three inches long through the skin of the neck, and began a dissection among important nerves and blood-vessels, without any expression of pain on the part of the patient. Soon after, he began to speak incoherently, and appeared to be in an agitated state during the remainder of the operation. Being asked immediately afterwards whether he had suffered much, he said that he had felt as if his neck had been scratched; but subsequently, when inquired of by me, his statement was, that he did not experience pain at the time, although aware that the operation was proceeding.

The effect of the gaseous inhalation in neutralizing the sentient faculty, was made perfectly distinct to my mind by this experiment, although the patient during a part of its prosecution ex-

hibited appearances indicative of suffering. Dr. Morton had apprized me, that the influence of his application would last but a few minutes after its intermission; and as the operation was necessarily protracted, I was not disappointed that its success was only partial.

On the following day, October 18th, an operation was done by Dr. Hayward, on a tumor of the arm, in a female patient at the Hospital. The respiration of the gas was in this case continued during the whole of the operation. There was no exhibition of pain, excepting some occasional groans during its last stage, which she subsequently stated to have arisen from a disagreeable dream. Noticing the pulse in this patient before and after the operation, I found it to have arisen from 80 to 120.

Two or three days after these occurrences, on meeting with Dr. Charles T. Jackson, distinguished for his philosophical spirit of inquiry, as well as for his geological and chemical science, this gentleman informed me that he first suggested to Dr. Morton the inspiration of ether, as a means of preventing the pain of operations on the teeth. He did not claim the invention of the apparatus, nor its practical application; for these we are indebted to Dr. Morton.

The success of this process in the prevention of pain for a certain period being quite established, I at once conceived it to be my duty to introduce the apparatus into the practice of the Hospital, but was immediately arrested by learning that the proprietor intended to obtain an exclusive patent for its use. It now became a question, whether, in accordance with that elevated principle long since introduced into the medical profession, which forbids its members to conceal any useful discovery, we could continue to encourage an application we were not allowed to use ourselves, and of the components of which we were ignorant. On discussing this matter with Dr. Hayward, my colleague in the Hospital, we came to the conclusion, that we were not justified in encouraging the further use of this new invention, until we were better satisfied on these points. Dr. Hayward thereupon had a conversation with Dr. Morton, in consequence of which Dr. M. addressed to me a letter. In this he declared his willingness to make known to us the article employed, and to supply assistance to administer the inhalation whenever called upon. These stipulations he has complied with.

This being done, we thought ourselves justified in inviting Dr. Morton to continue his experiments at the Hospital, and elsewhere; and he, directly after, Nov. 7th, attended at a painful and protracted operation performed by me, of the excision of a portion of the lower jaw, in which the patient's sufferings were greatly mitigated. On the same day, an amputation of the thigh of a young woman was performed, at the Hospital, by Dr. Hayward. In this case, the respiration of the ethereal vapor appeared to be entirely successful in preventing the pain of the operation; the patient

stating, afterwards, that she did not know that any thing had been done to her.

On Nov. 12th, an operation for the removal of a tumor from the arm of a young woman was performed by Dr. J. Mason Warren. The vapor was administered for three minutes, when the patient became unconscious; the operator then proceeded, the inspiration being continued. Standing myself on one side of the patient, while the operator was on the other, so entirely tranquil was she, that I was not aware the operation had begun, until it was nearly completed.

On Nov. 21st, an operation was performed by Dr. J. Mason Warren, on a gentleman, for the removal of a tumor, which covered nearly the half of the front of the right thigh. The patient lying upon a bed, the vapor was administered by Dr. Morton, in the presence of Drs. Charles T. Jackson, Reynolds, J. V. C. Smith, Flagg, Gould, Shurtleff, Lawrence, Parsons, Briggs, and others. After he had breathed the vapor for three minutes, his head fell, and he ceased to respire it, but presently awaking, the inhalation was renewed till he again appeared insensible. The operation was then commenced. At the first stroke of the knife he clapped his hand on the wound, but I immediately seized and held it during the remainder of the operation, though not without some difficulty, in consequence of his struggles. The operation was completed in two or three minutes, and the patient remained quietly on his back, with his eyes closed. On examination, the pupils were found to be dilated; the pulse was not materially affected. After he had lain about two minutes, I roused him by the inquiry, "How do you do to-day?" to which he replied, "Very well, I thank you." I then asked what he had been doing. He said he believed he had been dreaming; he dreamed that he was at home, and making some examination into his business. "Do you feel any pain?" "No." "How is that tumor of yours?" The patient raised himself in bed, looked at his thigh for a moment, and said, "It is gone, and I am glad of it." I then inquired if he had felt any pain during the operation, to which he replied in the negative. He soon recovered his natural state, experienced no inconvenience from the inhalation, was remarkably free from pain, and in three days went home into the country.

In all these cases, there was a decided mitigation of pain; in most of them, the patients, on the day after the operation, and at other times stated, that they had not been conscious of pain. All those who attended were, I think, satisfied of the efficacy of the application in preventing, or, at least, greatly diminishing the suffering usual in such cases. The phenomena presented in these operations afford grounds for many interesting reflections, but it being my principal attention, at this time, to give a simple statement of facts, I shall not pursue the subject further, but close with two or three remarks:—

1st. The breathing of the ethereal vapor appears to operate

directly on the cerebral system, and the consequent insensibility is proportionate to the degree of cerebral affection.

2d. Muscular power was for the time suspended in some cases, in others its loss was partial, and in one instance was scarcely sensible. The great relaxation of muscular action, produced by a full dose of the application, leads to the hope that it may be employed, with advantage, in cases of spasmodic affection, both by the surgeon and by the physician.

3d. The action of the heart is remarkably accelerated in some cases, but not in all.

4th. The respiration is sometimes stertorous, like that of apoplexy.

All these changes soon pass off without leaving any distinct traces behind them, and the ordinary state of the functions returns. This has been the course of things in the cases I have witnessed, but I think it quite probable, that so powerful an agent may sometimes produce other and even alarming effects. I therefore would recommend, that it should never be employed, except under the inspection of a judicious and competent person.

Let me conclude by congratulating my professional brethren, on the acquisition of a mode of mitigating human suffering, which may become a valuable agent, in the hands of careful and well-instructed practitioners, even if it should not prove of such general application as the imagination of sanguine persons would lead them to anticipate.

BOSTON, DEC. 3, 1846.

BOSTON, DECEMBER 7, 1846.

Dear Sir: In compliance with your request, I will briefly state my experience of the effects of the gas introduced into practice by Dr. Morton, and administered for the purpose of lessening the pain of surgical operations.

I have operated on four patients who had inhaled this gas; two of these cases are noticed by Dr. H. J. Bigelow, in his article on the subject. In all of them the gas was administered by Dr. Morton.

The first case was the removal of a tumor from the arm of a woman; the second, the amputation of the limb of a girl, 20 years of age, above the knee; the third, the removal of the breast of a lady, in private practice; and the fourth was the same operation, which I did on Saturday last, at the Hospital.

In the three first cases, the patients were apparently insensible and unconscious during the operation; they have since repeatedly assured me that they were so; no ill consequences followed the inhalation of the gas; they are all now nearly, if not quite well, and their recovery has been, I think, more rapid than under ordinary circumstances; which I attribute to their having escaped the shock of the operation.

The fourth patient seemed to be conscious during the opera-

tion ; answered questions and appeared to suffer ; yet she says that she did not, and was not aware of what was done, till it was nearly over. She has thus far been very comfortable, more so, I should say, than patients usually are in the same time after this operation. I remain, very respectfully, yours,

GEO. HAYWARD.

R. H. Eddy, Esq.

And the subjoined extracts are from a letter of Dr. Peirson, of Salem, who performed the important operations, of which he speaks, under the administration of the invention by Dr. Fisk, dentist of the same city, to whom I have granted the license to use it in Essex County.

"DEAR SIR, — The two following cases, occurring in my practice the past week, are of interest as supporting the claims to confidence of Dr. Morton's anodyne compound : —

"CASE I. — Nov. 19th. An Irish girl, under twenty years of age, in attempting to step into the cars at Hamilton, while they were in motion, fell, with her arm upon the track, and had a compound, comminuted fracture at the elbow, from the wheel of the car. At about 9 in the evening, I amputated in the middle of the humerus. The operation lasted a little longer than if done by daylight, although it was a flap operation and quickly executed. Three vessels were tied. Dr. Fisk, dentist, of this city, accompanied me and caused the patient to inhale the vapor of the compound, about three minutes before the operation commenced. By this time she appeared to have yielded entirely to its influence, and became pale, silent and perfectly manageable, whereas she had before exhibited evidence of great physical suffering and uncontrollable grief. Before the arteries were all tied, she appeared to be returning to consciousness, when, on offering the apparatus to her mouth, she seized it with avidity, respired rapidly, and soon seemed to relapse into the unconscious state. It was thus renewed four or five times before she was placed in bed. Her own statement is that she suffered no pain during the operation, that she was asleep, and when she woke she breathed again of what was offered to her and fell asleep again — that she remembers to have done this three times. She says she did not know what we were doing to her, but in her sleep she thought she had got a reaping-hook in her arm, and that she heard the noise of sawing wood. She says she was not sensible of any thing until she was laid in bed, when she became quite talkative, and evidently somewhat excited. She slept some hours during the night. On dressing the stump on the third day, she made a violent outcry at the slightest pain. I was convinced that her statements with regard to her freedom from pain during the operation, were to be believed.

"II. — Nov. 21st. An intelligent tanner, about thirty years old, with a fracture of both bones in the middle of the left leg, his an-

cle crushed by the cars engaged in building the Salem and Methuen Rail-road. I amputated the leg just below the knee. The patient respired the vapor under Dr. Fisk's directions. He says he was not conscious of feeling any pain — and after the operation was finished and the ligatures applied, his consciousness returned, and, with great apparent sincerity, he asked *if his limb was taken off*. He says, though he felt no pain, he was conscious of the presence of those around him, and he was obedient to the directions given him. The operation was performed at about 3 P. M., and the stump was dressed at about 9, when, he says, the pain of a few sutures far exceeded that of the operation.

"In both these cases, the pulse became somewhat accelerated after the operation, the countenance assumed a vacant expression, although in the first case there was working of the brows, and the pupils were dilated. They both appear to be doing well, and exhibit no symptoms worthy of note. Respectfully yours,

Salem, Nov. 24th, 1846.

A. L. PEIRSON.

Postscript.—November 25th, 1846.

"Yesterday, I made further trial of the ethereal vapor, upon a middle aged female, from whom I removed an adipose tumor, by an incision four inches long over the clavicle and scapula. She was an unimpressible subject, and was less perfectly under the influence of the vapor than the others, but she was entirely bewildered and not able to realize the nature of what we were doing to her. She was much more quiet than patients usually are, although the dissection was somewhat protracted, by the dipping down of the tumor into the supra spinal fossa of the clavicle, and confinement by fascia. She says she felt no pain, and did not evince any perception of the puncture of the needle in dressing the wound — a sensation which usually calls forth complaint, as it is commonly unexpected.

"From the results I have seen at the Massachusetts General Hospital, and in my own practice, I am led to expect the following advantages from its exhibition: —

"1st. Uniformity of its effects, unlike any mode of intoxication by stimulants in the stomach, or respiration of nitrous-oxyde gas. My three patients were as unlike in age, temperament, and habits, as could well be imagined, yet all exhibited the same appearance of passive endurance.

"2d. There was no instinctive or voluntary resistance, which is so embarrassing to an operator. This, next to its power of preventing the perception of pain, is the greatest merit claimed for it.

"3d. The securing the patient from the severity of the great shock which a capital operation inflicts on the sufferer. It was quite noticeable, in all the patients I have seen, that there was none of that extreme depression which sometimes follows a severely painful impression on the nervous system.

"4th. Its effects pass off rapidly, and, as far as I know, no bad results follow.

"5th. It can be repeated several times during the operation, except the mouth or jaws are the parts to be operated on. The repetition of the dose is always sought by the patients with avidity.

"6th. The last and most important of its effects, is, that it either wholly annuls pain, or destroys the consciousness of it, so that it is not remembered; and thus the sentiment of fear is wholly obliterated. The patient appears to have been dreaming, and in the second case said that "he was in a distinct existence" (i. e., distinct from his former experience), thus illustrating the theory of double consciousness.

"These are recommendations enough to ensure it a fair trial among the humane and enlightened members of our profession.

* * * *

"Dr. Morton and Dr. Jackson, at least, are entitled to the hearty thanks of the profession for their discovery, and the liberal manner in which they have offered it to all the subjects of surgical operations, both in and out of the Hospital. * * * *

"These gentlemen are entitled to the credit of having made it, for the first time, perfectly available to the suffering, and submitted it to the test of those competent to decide on its merits, without being content to rest its pretensions on non-professional credibility or popular notoriety.

Salem, Nov. 26th, 1846.

A. L. PIERSON."

It is also gratifying for me to be able to submit the following subjoined extract upon the subject, from the address of the Hon. Edward Everett, LL.D., President of Harvard University, at the opening of the new Medical College, of Boston, Nov. 6, 1846.

"I am not sure that since these remarks were delivered, a discovery has not been announced, which fully realizes the predictions of the text;—I allude to the discovery of a method of producing a state of temporary insensibility to pain, by the inhalation of a prepared vapor. A full account of this discovery is given in a paper, by Dr. Henry J. Bigelow, in the Boston Medical and Surgical Journal, for 18th of November, 1846. * * *

"I witnessed a very successful instance of the application of the prepared vapor, on the 18th of November; and was informed at that time by Dr. Morton, that he had employed it in several hundred cases of dentistry. It has also been made use of with entire success at the Massachusetts General Hospital, and elsewhere in Boston, in capital operations of surgery. The few cases of failure may perhaps be ascribed to irregularities in the process of inhalation, or to peculiarities of temperament or constitution on the part of the patient.

"I understand that great confidence is placed in this discovery, by the most distinguished members of the medical profession of this vicinity; and that they are disposed to regard it as an effectual method of inducing complete insensibility under the most cruel operations, by means easily applied, entirely controllable, and pro-

ductive of no subsequent bad consequences. It seems not easy to overrate the importance of such a discovery."

I could multiply certificates, and give you accounts of cases almost without number; keeping, as I do, a record of them at my office. But it is unnecessary. For, from the foregoing, I think you will readily conclude, that the extraordinary discovery of preventing pain in Dental and other surgical operations, has at last been made, and the use of it secured for the benefit of the human family.

It is now a matter of history, that the patient can submit, not only to Dental operations, but the reduction of dislocations, removal of tumors and the severest amputations, — without fear, consciousness or suffering; and that the Dentist and Surgeon can each perform the most arduous duties of his profession with a certainty, a facility and satisfaction, hitherto unknown. In fact, the patient escapes the great shock to the nervous system, which are incident to all other modes practised in surgery.

The following is a Circular, which I have found it necessary to issue, as a caution both to patients and those who have attempted, or may endeavor, to infringe on my legal rights.

"Important information for the public at large. — GENERAL CIRCULAR. — The peculiar circumstances of the case, requiring that the subjoined information should be fully made known at this time, the same is now published.

"PUBLIC CAUTION. — Whereas Letters Patent of the United States have been duly granted for the new and valuable invention, whereby Dental, and other Surgical operations, may now be performed without pain or suffering, or any injurious results to the patient; and certain unprincipled persons have, in the face of Law and Justice, without any license, instructions, or authority from me whatever, used my name and attempted to pirate said invention, endangering, from their want of skill and knowledge upon the subject, the lives of those whom they have persuaded to undergo their unwarrantable experiments:

"And whereas every person endeavoring, without such license, instructions, and authority from me, to use my name or pirate said invention, either by stealth or otherwise, and every person submitting to dental or other surgical operations, under such attempts and pretenders; or directly or indirectly aiding or abetting in any infringements of my rights secured by said Letters Patent, thereby renders himself liable in his person and property to the certain inconvenience and expense of prosecutions and damages at law.

"Now, therefore, on the score of humanity, as well as for the

protection of my own rights, I do hereby give this public notice ; and warn all persons against making my apparatus or using my said invention or name, without my free License, Instructions, and authority ; or in any manner lending themselves to the unprincipled and illegal employment of the same ; as it is alike my duty and determination to hold every such offender strictly accountable, in his person and estate, for all damages under the laws, and for every violation of my Letters Patent, or infringement upon my property and interest in said invention. At the same time, I would publicly announce that I am now prepared to dispose of licenses, or make arrangements so that every respectable Dentist and Surgeon, or other suitable person can obtain for his patients the benefit of or secure himself full instructions and authority, to use said invention, upon just and reasonable terms ; upon such terms, indeed, as must prove altogether less expensive to the purchaser than it will probably cost him in time and money, to undertake to defend himself in the Courts for infringements on my rights in the premises, to say nothing of the dishonesty, dishonor, or disgrace, which invariably attaches itself to every individual, who attempts to appropriate to himself, in secret or otherwise, that which is not only NOT HIS OWN, but which belongs "in LAW, EQUITY, AND IN FACT," solely to *another*, his neighbor, or fellow citizen.

"Aware that this invention is an extraordinary one, and of very great importance, conferring, as it does, a blessing heretofore unheard of upon the human race, inasmuch as, by means of it, the afflicted or suffering may now submit, without pain, or injurious results, to the severest Dental and other Surgical operations, necessary for the preservation of health and life ; I am particularly desirous, that my invention should not be abused, entrusted to ignorant or improper hands, or applied to nefarious purposes.

"I therefore recommend that no individual should subject himself to the use of it under any operator, unless the patient learn beforehand, that such operator is really and duly licensed, instructed, and authorized to administer the same ; which can be ascertained in every case by merely requesting such operator to exhibit his License ; and which License every one empowered to employ my apparatus and invention, possesses in WRITING, duly attested, under my own hand and seal.

"For terms and further particulars, apply to 19 Tremont Row.
Boston, Nov. 26, 1846.

W. T. G. MORTON."

It was deemed advisable to proceed in a quiet way with the invention at first, in order, among other reasons, that Letters Patent for the discovery might be properly secured in foreign nations. But I am now fully prepared to dispose of licenses to use my in-

vention and apparatus, in any part of the country, upon the following general terms:—

TERMS FOR DENTISTS.

In cities over 150,000, inhabitants, - - -	\$200 for seven years.
" " " 50,000 and less than 150,000,	150 " " "
" " " 40,000 " " " 50,000,	100 " " "
" " " 30,000 " " " 40,000,	87 " " "
" " " 20,000 " " " 30,000,	75 " " "
" " " 10,000 " " " 20,000,	62 " " "
" " " 5,000 " " " 10,000,	50 " " "
" " under 5,000	37 " " "

Surgeon's license one half of the foregoing prices for, or those who prefer it, can have it according to the terms upon this page.

25 per cent. on all charges made for performing operations, wherein the discovery is used. Fifteen dollars to be paid down, which will include Apparatus, a bottle of the Preparation, instruction, &c. The party licensed, to keep a correct account of all operations, the names of the parties operated on, and to forward the same to me; also, to pay me as often as once in three months.

Apparatus, instructions and licenses forwarded to any part of the country upon the receipt of the money, which may be either forwarded to me or any person in this city who can pay it over upon the receipt of the foregoing.

Infraction of agreement to be a forfeiture of the license, at the option of the licenser.

Satisfactory security for payment of license fees, to be given.

The subscriber is prepared to give and receive propositions for Agencies to dispose of Rights.

W. T. G. MORTON,

ESTABLISHMENT OF DRS. N. C. KEEP & W. T. G. MORTON,

No. 19, Tremont Row, and 74, Boylston Street, Boston, Mass.

N. B. As I do not wish to derive remuneration from persons in destitute circumstances, and only look for proper compensation from those able to make it, it is proper for me to add that I have given the gratuitous use of the improvement for the benefit of the poor and afflicted, at the Massachusetts General Hospital, and intend to give the advantage of it to every charitable hospital for the service of the indigent and sick.

☞ All letters addressed to me must be prepaid, to ensure their being taken from the office.

(Hospital Correspondence.)

It has already been stated in the public prints that Dr. Morton has given the right to use the Great Discovery, whereby pain is prevented in Surgical operations, to the Public Hospital. The following correspondence upon the subject, between that Gentleman and the Governor of the Massachusetts General Hospital, is highly creditable to all parties.

To the President and Trustees of the Massachusetts General Hospital :

GENTLEMEN : — Most, if not all of you, may be aware, that I have both privately and publicly declared, that it is not my intention or desire to receive from Benevolent Infirmaries, nor from persons in destitute circumstances, any compensation for the employment of the new discovery, whereby pain may be prevented or alleviated in Surgical operations.

And, long convinced of the excellence of the Charitable Establishment, over which you preside, and of its great and increasing importance in the service of Humanity, I beg leave respectfully to inform you, that I shall be happy to present to the Massachusetts General Hospital, if it be agreeable for the President and Trustees to accept the same, the fullest right, under the Letters Patent granted me by the Government of the United States, to use the Discovery above mentioned, for the benefit of Indigent Patients—the sick, or suffering poor, and other persons at the Institution.

With very great respect,

I am, Gentlemen,

Your most Ob't Serv't,

W. T. G. MORTON.

No. 19 Tremont Street, }
Boston, Dec. 14, 1846. }

BOSTON, December 21, 1846.

DR. W. T. G. MORTON—

Sir :—At a meeting of the Trustees of the Massachusetts General Hospital, held yesterday, your letter of the 14th inst., presenting to the Hospital the right to use your "Discovery for the prevention or alleviation of pain in Surgical operations," was laid before the Board.

I am directed, by a vote of the Trustees, to inform you that they accept your polite offer, and to express to you their thanks for your valuable gift, and their sense of the importance of the right to use your discovery, in the Institution under their control.

Your Ob't Serv't,

MARCUS MORTON, JR.,

Secretary Massachusetts General Hospital.

[From the Boston Medical and Surgical Journal.]

Operations without pain. — In the leading article of this day's Journal, by Dr. H. J. Bigelow, the profession will notice that an impression exists here in Boston, that a remarkable discovery has been made. Unlike the farce and trickery of mesmerism, this is based upon scientific principles, and is solely in the hands of gentlemen of high professional attainments, who make no secret of the matter or manner. To prevent it from being abused and falling into the power of low, evil-minded, irresponsible persons, we are informed that the discoverer has secured a patent, and that means were taken to have the same security in Europe even before publicity was given to it here. Without further remarks, we cheerfully publish all that has been given us on the subject, and wait with impatience for the decision of the profession in regard to its real value.

[From the Boston Medical and Surgical Journal.]

The attention of the medical public has been recently fixed upon a discovery said to be capable of preventing the severe sufferings of patients undergoing surgical operations. The mere announcement of such an improvement cannot fail to interest every man of common humanity, while to the operating surgeon it opens the prospect of a most gratifying triumph of his art. Every fact, well attested, is of interest in relation the history of this new expedient to relieve human suffering. The following cases having occurred in this city, and being the first operated on under the influence of the new process, may, perhaps, be regarded of sufficient importance to deserve record.

On the 20th ultimo, Dr. Horace Kimball, an accomplished dentist of this city, put into my hands a recent No. of the Boston Medical and Surgical Journal, containing an article from the pen of Dr. Bigelow on this subject. There was no room to doubt the respectability of the source from which the information was derived, and accordingly, I made arrangements with Dr. Kimball to have the inhalation administered to a young lady who was to be operated on for the removal of a scirrhus tumor under the right mamma on the 21st ult. Owing, however, to his inability to avail himself of the use of the only apparatus for its administration at that time in New York, the lady, after having had her hopes raised, was obliged to submit to the operation without being able to participate in the benefits of the new discovery. It was successfully performed, and she has since entirely recovered.

On the 4th inst., Dr. Kimball having become the agent of the

discoverers in this city, and having provided himself with the necessary apparatus, afforded me an opportunity of making a trial of the inhalation at my office, No. 11 Carroll Place, in the presence of several professional gentlemen and medical students, in the case of a young lady from Brooklyn. The case was one of enlarged tonsils. The patient, after respiring the ethereal vapor for a few minutes, became apparently insensible, breathed heavily, had the pupils dilated and the pulse slightly accelerated, when, on attempting to open her mouth, I found the jaw closed spasmodically. This obstacle was in a minute or two overcome, and her mouth was opened, when a pleasant smile passed over her countenance. The left tonsil was excised, apparently without her notice. I laid down the instruments, intending to have the inhalation repeated before the removal of the second tonsil, but at the suggestion of Dr. Kimball, that she was still under the influence of her original dose, I proceeded to the removal of the second tumor. She soon afterwards opened her eyes and smiled with returning consciousness. She declared that she had no knowledge whatever of the first operation, but remembered smiling at having her mouth "so nicely opened."

The operation in the first instance was thus perfectly successful, and in the second was partially so, and but for the time lost, quite unnecessarily, both the tonsils might have been removed during the period of her entire unconsciousness.

Another operation was performed on a boy who had been my patient in 1840, with a double hare-lip, complicated with a terrible fissure of the palate. In this case, which had been perfectly successful, the end of the nose was drawn down a little to the lip, and he had been desirous himself of trying the effect of an incision at the upper part of the lip, with the view of liberating it, and giving a better expression to these features.

He inhaled the vapor for two or three minutes, and became entirely insensible. The knife, a small straight bistoury, was passed just under the ala nasi of the left side, through the upper lip, and brought out at the corresponding point at the other side, completely separating the lip from the nose, without apparently occasioning the least sensation.

It was several minutes before he recovered his consciousness. On being interrogated, he declared that he was not sensible of being hurt, did not know when he was cut, and felt no pain. His appearance and expression of countenance corroborated entirely his declarations, and left the fullest impression on the minds of all present, of the perfect insensibility occasioned by the ethereal inhalation.

As I had repeatedly inhaled the vapor of sulphuric ether, as long ago as the year 1822, and as I had seen it inhaled repeatedly by others, I was desirous of trying on myself the effects of this agent, in order to satisfy myself whether I could discover any difference in its apparent effects from those of the vapor of ether.

I was thrown into a state of perfect insensibility, unaccompanied with the least pain or inconvenience, but on the contrary I felt, on recovering, as if I had been in a beatific vision. No headache or unpleasant sensation of any kind followed the inhalation, and I recognized precisely the sensations which I had formerly experienced from the effects of ether.

On the 8th of this month, I was present, by the polite invitation of my distinguished friend, Dr. Mott, at an operation which he performed on a lady for the removal of a cluster of tumefied glands from the right axilla. After inhaling the vapor for a sufficient time to induce a state of insensibility, an incision of four or five inches in length was made parallel to the edge of the pectoralis major, and after some progress had been made in the operation, the patient was asked by Dr. Kimball how she felt. She replied, "very comfortable." "Do you feel any pain?" "No." To the same question repeated after a short interval, a similar reply was made—and after a further lapse of time the patient partially arousing, inquired, "have they begun the cutting?"—thus manifesting her total unconsciousness of what she had passed through, up to that period. Afterwards her sense of pain appeared for some time considerably blunted, but she became gradually more and more conscious of what was done, until at last, her sense of suffering seemed to be entirely natural.

In this operation, which from its position and the implication of important parts, was necessarily protracted, the influence of the narcotic agent was not sufficiently permanent to prevent entirely the sense of pain; yet it was evident, both to the accomplished operator, and to spectators, as well as to the patient herself, that her sufferings were in part averted entirely, while the rest was entirely mitigated.

On the 10th inst., I accompanied a young lady to Dr. Kimball's, who had a second bicuspid tooth on the left side of the upper jaw removed, under the influence of the ethereal inhalation. In this case the patient raised her hand to the mouth as if to prevent the process, but when it was accomplished she manifested a total ignorance, not only of pain but of all knowledge of the operation. She declared that she knew nothing about it, and remembered only a delicious dream or vision.

No evil consequences followed in this or either of the preceding cases, and the effect of what I have seen has been on my own mind a firm conviction that the discovery of Drs. Morton and Jackson has added to the resources of the surgical art, one of the most invaluable benefits of which modern times can boast. It is certainly a great boon to suffering humanity, and they deserve the unmingled gratitude of mankind. In amputations, and all other surgical operations which can be performed at once with rapidity and safety, this discovery furnishes a perfect immunity from pain; and in those more protracted, a great alleviation may be obtained; while that most excruciating operation, the extraction of teeth, which everybody has more or less frequently to endure, is no long-

er an object of dread, since, by means of the inhalation the patient is rendered absolutely and entirely unconscious of pain.

In reference to the *rationale* of the process, it will immediately occur to the practical surgeon that in cases of cerebral injuries, where coma exists, and where operations for cutting the scalp and removing bone by trephine and saw, are habitually performed without consciousness on the part of the patient, a case is presented parallel to that of insensibility from inhaling the vapor of ether. The ether is absorbed with the oxygen of the atmosphere during inspiration. Is it not natural that it should excite a certain degree of dilatation of the vessels of the brain, slight and evanescent certainly, but still producing a temporary pressure on the cerebral substance, thus furnishing at once an analogy with the coma of compression, and an explanation of this most singular and interesting phenomenon of insensibility to the knife induced at will, and with an impunity as real as it is surprising?

In furnishing this record of the first cases of surgical operation performed in New York under the influence of the Boston discovery, I feel that I am contributing my humble share to the mass of testimony which my fellow men have a right to demand on an occasion which appeals to the love of human nature as well as to the pleasure and pride of a profession in itself most honorable, and which receives from this discovery a happy addition to its glorious and humane triumphs.

A. L. Cox.

No. 11 Carroll Place, New York, Dec. 18th, 1846.

(Boston Surgical Journal.)

ARE INVENTIONS IN SURGERY AND IN CHEMISTRY LEGITIMATE SUBJECTS FOR PATENTS?

By a Correspondent who has no Property in Patent Rights.

Several correspondents of the Boston Medical and Surgical Journal, in their remarks concerning the patent granted by the general government, to Drs. Morton and Jackson, for their new and important discovery by which pain may be prevented or alleviated in surgical operations, seem to proceed upon the ground, that the patent has been issued for a secret process. This is a mistake on their part; and, if they will reflect for a moment, or merely possess themselves of the ordinary law-knowledge upon the subject, they will perceive the error into which they have so inadvertently fallen.

No patent is or can be granted for a secret process. The very meaning of the word "patent" is "open," public, not private or secret; and the very first pre-requisite of a patent is that the inventor shall furnish the government with a written description of his discovery, so that any one skilled in the art or science to which it appertains, may know how to make and use the same; and so that at the expiration of the term during which the law secures the

exclusive right of the discovery under a patent to the inventor, the public at large may be at full liberty to make and use such discovery. These are the words of the law: "But before any inventor shall receive a patent for any such new invention or discovery, he shall deliver a written description of his invention or discovery, and of the manner and process of making, constructing, using and compounding the same, in such full, clear, and exact terms, avoiding unnecessary prolixity, as to enable any person skilled in the art or science to which it appertains, or with which it is most nearly connected, to make, construct, compound and use the same."

The authority to grant patents is established by the Constitution of the United States, which declares that "Congress shall have power to promote the progress of science and useful arts, by securing for limited times to authors and inventors, the exclusive right to their respective writings and discoveries."

The object of the framers of this clause in the Constitution, was undoubtedly to sharpen the wit and ingenuity of the people, to stimulate citizens of every class in their researches and labors—to encourage them, by the prospect of an adequate remuneration, under an exclusive right for a term of years, to delve into the secret recesses of nature and art, and discover, reduce to practice and bring out to public view and use, every improvement or invention to be found, devised, or thought of, for the comfort, preservation, health or happiness of the race.

Nearly if not all great inventions have been patented; and were it not for the Constitution, the laws, and the decisions of the tribunals, in this behalf, very few modes, great improvements or processes would be made—or if made at all, be promulgated to the community at large. They would be wrought in private—practised and kept in secret; and, perishing at the death of those who gave them birth, be lost to mankind.

The correspondents above alluded to, also appear to think that patents cannot be granted for improvements in surgery and chemistry. This is another mistake on their part, which they will be convinced of at once, by merely reading the statute. The law of patents is based upon the article in the Constitution already quoted; and in the words of a section of that law, patents are granted "for any new and useful *art*, machine, manufacture, or *composition* of matter, or any new and useful *improvement* on any art, machine, manufacture, or composition of matter."

No distinction, it is manifest, is or can be made in favor of one set of men or profession over another. Mechanics, dentists, surgeons, artificers, chemists, and others—all possess equal privileges, each having as unquestionable a right as the other, to receive letters patent for any invention or discovery he may make in or out of his own professional walk or calling. And the property of each in these rights is alike protected by the courts and laws.—And surgery being an art, as much as chemistry is a science, it is equally obvious that it would be as vain to assert that a patent could not be issued for an improvement in surgery, as that a patent

could not be granted for an improvement in chemistry — even if it were not a notorious fact that letters patent are annually granted, in almost every other nation as well as our own, for improvements in both surgery and chemistry.

What would dentists, surgeons, or chemists say, if they were not allowed rights common to the humblest mechanic — to every class in the community? if they alone were denied the privilege of taking out letters patent for any discovery or improvement they might make in their vocation for the benefit of humanity? Do they not charge, and are they not entitled to fees for their services — in all cases where fees can and ought to be paid?

The novelty and usefulness of a discovery is first tested at Washington. A thorough examination must there be made in the first instance. The public examiners and Commissioner of Patents must fully investigate the subject, and ascertain to a certainty, that the discovery is absolutely new and useful, before any patent can be granted by the government.

In actions against infringers for appropriating to their own use the inventions of others, the burden of the proofs and trial is, in general, upon the defendants. Those who undertake to possess themselves of what does not legally belong to them, must prove, by disinterested and conclusive evidence, the grounds upon which they attempt to violate the rights or invade the property of the patentees. "The inventor," to use the words of Mr. Justice Woodbury, at the trial of *Hovey vs. Henry*, in November last, "holds a property in his invention by as good a title as the farmer holds his farm and flock."

But let the law be as it may, there are in every community, and probably always will be, persons constantly on the look out, ever ready and eager to avail themselves of the labors and inventions of others. When they are about to seize upon the improvement of some one else, they commonly begin by crying out that they thought of it before, they first attempted or accomplished it themselves — and then proceeding to appropriate the benefit of it to their own private use, they endeavor to make the most of their "ill-gotten gains" — as long as they can set justice at defiance, or hold on with impunity.

It is a matter worthy of particular note, that while the celebrated chemist and foreigner Shoenbein, has been securing letters patent in the United States and in all parts of the civilized world, for his great discovery (gun cotton), for the direct injury of mankind or the more certain destruction of human life; our countryman, Dr. Morton, has been securing letters patent at home and abroad for the infinitely greater discovery made by him and Dr. Jackson, for the alleviation of pain, the preservation of health and human existence. Dr. Shoenbein's chemical discovery was patented here in December last. It applies not only to cotton, but all fibrous materials: and all persons who have used his discovery, since his

application was made to our government, and all who may now be infringing upon his rights, in this country, are undoubtedly liable for damages, according to the statutes.

(Journal of Commerce.)

MORTON'S LETHEON.

"Who shall decide when Doctor's disagree?"

MR. EDITOR:—A short space is solicited for a reply to an article in your paper of Saturday last, signed by Richard S. Kissam, of this city, to which my attention has been called. If I have rightly apprehended the meaning of that communication, it is briefly this: he objects to the "inhalation of narcotic vapors,"—because, as he says, the sensation of pain (which such inhalation completely destroys,) has been given us to stimulate and set in action the recuperative process of the organization, after injuries," and therefore it is desirable that patients should be left to feel pain which is naturally endured under surgical operations. Without attempting to counteract the position thus laid down by your correspondent—but which, nevertheless, I think not quite so unquestionable as it appears to him—it will be sufficient for my present purpose to say, that I presume he will not pretend that a suspension of sensibility for a period of from two to five or six minutes can have any appreciable effect in retarding the recuperative process in a person who during that time has been the subject of a surgical operation. If he does not, then all his fabric of physiological objections fall to the ground, and the use of the "Letheon," at which his remarks appear to have been directed, is not liable to the formidable objections which he has enumerated. If, on the other hand, he does maintain that the recuperative process is interfered with to an injurious extent, then I would most respectfully oppose to his opinion, that of Dr. John C. Warren and Dr. Geo. Hayward, of Boston,—gentlemen well known to the profession here, as distinguished surgeons of that city, and who would not be likely hastily to express an opinion which had not been well substantiated by experience and observation. In a communication from Dr. Warren to the Boston Medical and Surgical Journal, he says:—"The discovery of a mode of preventing pain in surgical operations, has been an object of strong desire among surgeons from an early period. In my surgical lectures I have almost annually alluded to it, and stated the means which I have usually adopted for the attainment of the object. I have also freely declared that notwithstanding the use of very large doses of narcotic substances this desideratum had never been satisfactorily obtained. The successful use of any article of the materia medica for this purpose, would therefore be hailed by me as an alleviation to human suffering."

How shall we account for the fact that Dr. Warren has considered it such a desideratum to find a mode of preventing pain in surgical operations; and that it has been, as he says, "an object of strong desire among surgeons from an early period," if, as your correspondent asserts, "all physiologists" agree to his statement, that pain is necessary to set in motion the curative process? Will he deny to the distinguished New England surgeon the reputation of a physiologist? Certainly not. Will he say that his remarks are applicable only to cases where insensibility to pain is long continued? This cannot be his meaning, for his objections are specifically to "the inhalation of narcotic vapors," whose effects are limited to a period of from two to five minutes — unless intentionally protracted beyond that time, in which case the objection will not lie against the vapor, but against the injudicious use of it. Most evidently there is not that entire harmony in the views of physiologists on this subject which your correspondent's declaration would lead us to believe. But Dr. Warren, of Boston, after detailing some operations performed under the influence of Dr. Morton's "Letheon," says:—"The success of the process in the prevention of pain for a certain period being quite established, I at once conceived it to be my duty to introduce the apparatus into the practice of the Hospital, (meaning the Massachusetts General Hospital, of which institution Dr. Warren is the senior surgeon,) but was immediately arrested by learning that the proprietor intended to obtain an exclusive patent for its use." After consultation with the other surgeons of the hospital, and the proprietor of the "Letheon," all objections to its use on this ground were removed, and Dr. Morton was invited to continue his experiments with it at the Hospital and elsewhere. In concluding his article, Dr. Warren says:—"Let me congratulate my professional brethren on the acquisition of a mode of mitigating human suffering, which may become a valuable agent in the hands of careful and well instructed practitioners."

Dr. Geo. Hayward, who is associated with Dr. Warren as a surgeon of the Hospital, in a communication to a gentleman in Boston, speaking of four different operations which he had performed, says:—"The first case was the removal of a tumor from the arm of a woman—the second, the amputation of the limb of a girl 20 years of age, above the knee;—the third, the removal of the breast of a lady, in private practice,—and the fourth, the same operation which I did at the Hospital. In the three first cases, the patients were apparently insensible and unconscious during the operation. They have since, repeatedly assured me that they were so. No ill consequences followed the inhalation of the gas, (vapor.) They are all now nearly, if not quite well, and their recovery has been, I think, *more rapid* than under ordinary circumstances; which I attribute to their having escaped the shock of the operation. The fourth patient seemed to be conscious during

the operation, answered questions, and appeared to suffer. Yet she says she did not, and was not aware of what was done, until nearly all over. She has thus far been very comfortable, more so, I should say, than patients usually are in the same time after the operation.

Other testimony to the same point might be given, but would add unreasonably to the length of this article. Sufficient has been adduced to show how this matter is viewed by the most distinguished surgeons in Boston, where this matter has been thoroughly tested, and who have had the best opportunity to observe its operation. The remark with which your correspondent closes his article, that the use of these various narcotics, if they alleviate present pain, is sure to be followed by protracted recovery, and sometimes, by death itself, so far as it may have reference to the use of the "Letheon," is shown to be altogether incorrect by the facts in the cases where it has been used; Dr. Hayward's statements appearing to prove exactly the reverse, viz: that the recovery of patients under its use have been more speedy and safer than without it—and for which he gives a sound physiological reason.

Your correspondent, "Medicus," is peculiarly unfortunate in his few lines, to embody so much that is incorrect. To his request that he may be allowed to assure you that its use is not sanctioned by the respectable physicians and surgeons of the city, I would simply say, that he takes too much upon himself to speak thus for the physicians and surgeons of New York, — as I happen to have evidence, of the most positive character, exactly the reverse of this. To his remark — that the nostrum had been tried in the New York Hospital, and failed, I oppose a point blank denial; the operation, to which he alludes, being the first one attempted in New York, in which there was a total failure in the attempt to administer the vapor — the person administering it never before having seen it used, and the patient not being at all under its influence. He then speaks of other reasons why it should not be used — viz: that it is a secret remedy, and patented. The gentleman ought to know that a secret, yet patented remedy, is a contradiction and absurdity, which the etymology of the word *patent* should have made obvious to him. Yet a few lines farther on, he contradicts himself, and says it is not a secret.

The whole matter is spread out on the books of the Patent Office in Washington, to which any body can have access, (and to which I would refer Medicus,) and therefore it is ridiculous to speak of it as a secret. It is patented, and upon that patent the proprietors rest for the protection of their interests. In reference to the expediency of patenting such a discovery, although I have a decided opinion, I do not deem it of sufficient importance to express it, inasmuch as it is a matter in which I have no sort of interest. I may say, however, that while one of the objects of the patentees is to remunerate themselves, for the expense of time and

money in perfecting it, yet they have made, and are making, such arrangements as to enable every public institute to use it gratuitously — and also to secure its benefits to the poorest and most necessitous persons — while to physicians, surgeons, and dentists, who may wish to use it in their private practice, it is offered for a reasonable compensation.

For my own part, I believe the discovery to be one of very great value, and shall do what I can to extend its benefits in the city. I am using it in my practice, as a Dentist, with the most surprising results; since by its use I am enabled to extract teeth from patients while they are rendered so perfectly insensible to pain as not to experience it even in the slightest imaginable degree.

HORACE KIMBALL, M. D., 522 Broadway.

New York, Dec. 21, 1846.

(Vermont Mercury.)

Report of Dr. Chase on the use of Dr. Morton's preparation, for the prevention of pain.

MR. EDITOR:—As much is said at the present time for and against the administration of Dr. Morton's "gas," for the prevention of pain, I should like to inform the community what has been the result of it so far, in my own practice.

I commenced the use of it about three weeks since, and have administered the gas and performed the operation of extracting teeth in twenty-six cases. Nine times to males, and seventeen times to females. In twenty-two cases no pain at all was felt during the operation. In one of the remaining four, the patient said that she was "hurt dreadfully;" and the other three spoke of the pain as very slight; nothing in comparison to the common mode without the gas. In twenty-five cases the patients declared that they should always take the preparation when they wanted a "tooth pulled;" and in one case, as believing that she "should have the *neat* taken out the old way." In *two* instances, I gave the gas three times in succession, and in *four* cases, twice, when there were a large number of teeth to be extracted. In twenty-four out of twenty-six cases, the patients expressed themselves as feeling none but agreeable and quiet sensations during the operation of the gas; in the other two, both felt as though they were fainting during the last inspirations of the gas. Four patients were entirely unconscious during the operation, although for one of them I extracted four teeth which were very difficult to remove from the jaw. The remaining twenty-two were perfectly aware of all that was transpiring; knew when the instruments were applied, and spoke as soon as the teeth were extracted.

In no case have I seen any ill effects produced, nor have I heard of any. In every instance but two, the *jaw* felt perfectly easy and did not ache after the operation, and the patient said that it felt as comfortable as though no teeth had been extracted. The largest number of teeth taken out at one time, was *five*, and three of those were roots which were difficult to extract. The patient—a lady—has suffered several years with them, dreading the common operation more than the pain she endured. She took the gas twice, and although insensible to pain, she spoke during the operation, saying “pull another, it don’t hurt at all.” In two of the four cases where pain was felt, the gas was imperfectly breathed, owing to the extreme warmth of the room which caused a rapid evaporation of the liquid which forms the gas, and produced a fit of coughing. In the other two cases, I, of course, did not administer enough, although I supposed that I had.

Whenever the preparation was given but once, the patient felt perfectly well immediately after the operation, but when more was administered a sense of lassitude and slight dizziness was experienced for a few moments, which was immediately recovered from on going into the fresh air. In every case but one, the mouth opened by merely touching the chin with the finger; and in only two was the hand raised or any resistance made to the application of the Forceps.

HENRY S. CHASE, M. D.

Woodstock, Dec. 21st, 1846

(Sal. Gazette)

We take pleasure, unsolicited by Dr. Morton, in calling attention to a most important discovery of his, for mitigating the pain of surgical operations. This method, which is simply that of inhaling an innocuous gas, which produces a brief insensibility, has received the sanction of the most eminent surgeons in the Commonwealth. The Boston Medical Journal gives a minute account, prepared by Dr. H. J. Bigelow, of the experiments which have been made in the Hospitals, concluding as follows:

“We understand, already, that the proprietor has ceded its use to the Massachusetts General Hospital, and that his intentions are extremely liberal with regard to the medical profession, generally, and that so soon as necessary arrangements can be made for publicity of the process, great facilities will be offered to those who are disposed to avail themselves of what now promises to be one of the most important discoveries of the age.”

(Boston Whig.)

ETHEREAL VAPOR IN CONGRESS. — On Monday, Mr. W. nthrop, in the House, and Mr. Davis, in the Senate, presented memorials from physicians of Boston, laying before Congress a humane plan by which surgical operations may be performed free from all pain. In both Houses they were referred to select committees.

(Salem Gazette.)

The late discovery of Dr. Morton, which comes so happily in aid of the surgeon and the dentist, seems to us to mark, in one respect, a new era in the history of our race. It is not merely that the physical pain of a few moments is annihilated, but that all the anguish arising from the dreadful anticipation of suffering, — all the terror with which the dentists' instrument and the surgeons' knife are invested by timid childhood and shrinking humanity, — are gone forever, as if by a kind angel's influence. The skillful operator will now be welcomed everywhere as the recognized friend of the sufferer; never impeded in his efforts by the resistance of those he is seeking to relieve.

We cannot, as yet, venture to guess how much is destined to be effected by this powerful agent; but if it only annihilates the pain caused by extracting a tooth, or amputating an arm, we think it deserves the warm welcome we have given to it. Within the past week a distinguished surgeon and dentist of our own city have satisfied themselves that it can be safely and satisfactorily used in such operations as these, and we should think that many cases might arise where it could be resorted to with equal benefit. We do not expect that it will annihilate "the ills that flesh is heir to," but we think that it will make our physical life in the 19th century of more value than it has ever been before.

(From the New York Herald.)

I submitted myself, to-day, to the respiration of Dr. Morton's newly discovered "Etheral Vapor," applied by Dr. Edward Warren, for the purpose of having two troublesome teeth extracted by the celebrated dentist, Geo. W. Humphreys, of this city. The

first exhalation produced a calm, quiet sleep, in about two minutes after it had been commenced, and the first tooth, of large size, was instantly extracted by Dr. Humphreys, without the least sensible pain. I recovered in a few moments afterwards, having a sensation of gaiety, similar to the early effects of champagne. I then took a second trial, which left me perfectly unconscious of all operation, with considerable agreeable excitement. The second tooth was then pulled without any sensible pain. I remained to witness its use by several gentlemen and ladies, among whom were Judge Smith, of the Marine Court of your city, who had two taken out, without even knowing that they were extracted. He was under considerable gay excitement, after a partial recovery from the somnific state, but was soon restored. The gas is to be introduced in the army forthwith. It is a wonderful, a most wonderful discovery.

(Boston Surgical Journal.)

LETHEON IN NEW YORK.—The apparatus and ethereal vapor introduced to the profession by Dr. Morton, of Boston, for producing insensibility and unconsciousness during dental and other surgical operations, have been tried with more or less success in New York, for a few weeks. Dr. Kimball, who is agent for the city, has fully succeeded in several cases of the extraction of teeth, and he has administered the inhalation of the vapor to several patients, upon whom Dr. Cox has performed minor operations, the painfulness of which is described by the sufferers to have been inconsiderable, and in one or two cases the patient has been entirely unconscious of any sensation. Dr. Mott removed a tumor from the axilla of a young lady, a few days since, which required an incision through the integument of some six inches in length, which was made without pain, or any sensation whatever, as was also a portion of the dissection. The effects of the inhalation partially subsided before the operation was concluded, so that the patient recovered a kind of dreamy consciousness, but experienced very little suffering.

Dr. Kimball superintends the experiments, and is disposed liberally to afford opportunities to the profession for testing the success of this new auxiliary to practical surgery. It will soon be tried in the practice of the New York Hospital, a committee having been appointed for the purpose. Thus far, there is a disposition to regard the subject with favor, and worthy of further inquiry. Of its value, if fully successful, there can be but one opinion.

(Boston Transcript.)

DENTISTRY. — Dr. N. C. Keep, one of the oldest and best surgeon dentists in the city, has associated himself with Dr. Morton, the patentee of the preparation for putting patients, about to undergo dental and surgical operations, into a state of insensibility to pain, and who first demonstrated the practicability of its use. The application of this preparation is one of the most important discoveries in medical science of modern times.

Dr. J. C. Warren, one of the highest authorities in the United States, speaks of the preparation and its application in terms which must secure for it the confidence of all, and his views of its efficacy and usefulness are fully concurred in by Dr. Hayward of this city, and Dr. Pierson of Salem. President Everett, of Harvard University, also speaks of its merits in his address at the opening of the new Medical College, and says, that in the few cases in which it has failed, the failure "may, perhaps, be ascribed to irregularities in the process of inhalation, or, to peculiarities of temperament or constitution on the part of the patient."

[Newark Daily Advertiser.]

PULLING TEETH WITHOUT PAIN. — Messrs. Colburn & Son, Dentists of this city, made an entirely successful experiment yesterday of extracting teeth from two patients under the influence of *Ether* — which is claimed by Dr. Morton, of Boston, as an original suggestion, and for which, or rather perhaps for the contrivance of a convenient instrument for inhaling the potential vapor, he has obtained a patent. The following statement, which has been handed to us by Dr. Smith, who witnessed the experiment, gives the particulars :

This morning by invitation, I had the pleasure of witnessing at the room of Messrs. Colburn & Son, Dentists, in company with Dr. S. H. Pennington, the inhalation of Dr. Morton's Ethereal vapor for the prevention of pain, and the extracting of six teeth by Mr. Colburn while two patients were under its influence. The first subject was a young woman of 18 or 20 years of age who resolutely took the operating chair and breathed the vapor as pre-

pared for her by Mr. Warren, of Boston, an agent of Dr. Morton's, for about three minutes, when she sunk into an apparently comatose state. Mr. Colburn applied the forceps to an irregular canine tooth, which being decayed crumbled under the instrument; after several attempts he succeeded in extracting the stump, when she returned to a state of consciousness. After a few minutes she took the vapor again and had another tooth of the same kind extracted from the other jaw. This operation occasioned quite as much trouble and pain apparently, as the first. The patient made no resistance, though she groaned and seemed to suffer. She soon returned to entire consciousness and said the effects of the vapor was pleasant, though she knew all that was going on, and felt pain, though she did not *mind it*. I was satisfied that had this patient breathed the fluid a moment longer she would have been entirely unconscious of any pain.

The second subject was a young man 18 or 20 years of age, who had a number of very bad teeth and who never had courage enough to have any extracted. He sat down and took the vapor for about three minutes, without any unpleasant symptoms, (except a slight disposition to cough at first) and then sunk into an apparent slumber. After a little difficulty and delay in inducing him to open his mouth, Mr. Colburn made several unsuccessful attempts upon a decayed fang and then immediately extracted a large double tooth when the patient awoke. The inhaling apparatus was presented to him and he again after two minutes, became insensible, when two more large double teeth were extracted. He appeared intoxicated for some minutes, and said he knew nothing about having any teeth extracted and had suffered no pain. He said it was "the most delightful sensation he ever experienced and he would give a dollar to take it any time, for the pleasure of it."

The exhibition was successful in proving what Dr. Morton claims, "that it always greatly mitigates, and generally renders the subject insensible to pain from dental and surgical operations," and though it is not new, that ethereal vapor may be breathed and cause intoxication, yet to Dr. Morton is the credit due of having first used it for any good purpose, and for inventing a convenient instrument for administering it.

As it is so powerful an agent, it should only be used by those properly instructed in all its effects.

Newark, Dec. 11, 1846.

L. A. SMITH.

[*Bostonian.*]

SOMNIFIC GAS.—So many new and strange fangled projects and discoveries are coming into existence every day, that it would employ a pair of electric scissors, and a steam pen to keep the run of them all. However, we cannot avoid noticing so vital an object to us all, as the new theory of *gas*! One Dr. Morton, we believe, professes to have made a very important discovery in being able to administer a certain species of inhalable gas, the effect of which is so powerful—yet perfectly harmless—that a patient may be put into a magnetic sleep or torpor, which not all the pains and anguish of disjointing a limb or extracting a tooth will disturb. Now the immense benefit of such a discovery to the medical world, cannot admit of doubt, but the question arises, is it infallible? or is it but a slight improvement of the old humbug mesmerism, with etherealized opium accompaniment? A young lady engaged in setting types for our paper, went to Dr. Morton, on Tremont street, and took the gas for the purpose of having two teeth extracted. She describes the sensation as a sudden and pleasing sleep, though she lost not her powers of seeing and consciousness that something was being done to her teeth, yet she was not at all conscious of any pain while the teeth were being extracted.

[*Portland Argus.*]

THE ETHEREAL VAPOR.—We saw this vapor administered yesterday, by Dr. Heald, to a man afflicted with a wen on his head. After inhaling the vapor for a minute, perhaps, the patient was pronounced to be in a proper state. Dr. Davies performed the operation. The cutting about and removing the excrescence occupied not more than two minutes. The patient was recovered by swallowing some cold water. He stated that he was sensible of every thing going on around him. There was no sleep. The cutting produced no pain, but was rather agreeable. This agreeable sensation arose probably from the letting of the blood; as there was an evident tendency of the blood to the head. He sat perfectly still and his appearance under the operation corroborated his words.

[Boston Medical Surgical Journal.]

INHALATION OF ETHEREAL VAPOR—PAINLESS REDUCTION OF A DISLOCATED SHOULDER JOINT UNDER ITS INFLUENCE.

BY S. PARKMAN, M. D.,

One of the Surgeons of the Massachusetts General Hospital.

The attention of the medical profession having been so extensively called to many applications of the discovery of Mr. Morton, the following instance of its employment may not be uninteresting to your readers, as indicating a class of cases in which its use may be of the greatest value.

A stout healthy carpenter applied at the Massachusetts General Hospital this afternoon, with a dislocation of the left shoulder. The accident happened last evening, from slipping on the sidewalk. Ineffectual attempts were made this morning by a practitioner, at first unaided, and afterwards with the assistance of several other persons of fair bodily power, by means of a sheet, &c. In the absence of Dr. Hayward, the Visiting Surgeon of the Hospital, I was sent to take charge of the case. The dislocation was *sub-coracoid*, presenting the usual appearances. The pullies and counter-extending band being applied in the usual manner, the inhalation was commenced under the superintendence of the house physician, Dr. Bertody, by an apparatus furnished by Mr. Morton to the Hospital. After about two minutes its influence was seen to be established, indicated not so much by any decided apparent insensibility, as by a certain incoherence of manner, unattended, however, by any attempt at resistance or the like; the patient said he "had got enough." Traction was commenced, and after, say a couple of minutes, the head of the bone was felt to move, and at once entered the socket with an audible snap. During this time not a groan escaped the patient, neither was there the slightest resistance felt on the part of the muscles in the vicinity of the joint. The patient's manner continued slightly incoherent for a few moments, but he soon recovered himself, and denied having experienced the slightest pain, though he remembered the sensation of the snapping of the bone into its place. I need not say that having already experienced the pain of previous ineffectual and somewhat prolonged attempts, he expressed himself highly delighted and was profuse in his compliments.

The power exerted by the pullies was very slight, and I feel confident that I could have reduced the bone, unaided by them, with my hands alone. I am in the habit every year of producing this dislocation, among others, upon the dead subject, for demonstration in the lectures of Dr. Warren, and it is worthy of remark with

what ease these factitious dislocations are reduced; in fact it is hardly possible to handle the limb without the head of the bone flying into the socket—showing the muscular power to be the chief, if not sole obstacle in these cases in the living. In the instance above detailed, so utter was the abolition of the muscular power, and so easy was the reduction, that I was strongly reminded of my experiments upon the dead body.

The application of this agent to this class of cases has undoubtedly suggested itself to every one who has seen its employment, and it only remains to apply it to a dislocated hip joint to add another to its triumphs. In cases of dislocations it will probably not only annul pain in the patient, but render unnecessary those violent exertions on the part of the surgeon, which are by no means agreeable to the by-standers to witness, or to himself, on a hot July day, to make.

December 9, 1846.

USE OF THE LETHEON—SEVENTEEN TEETH EXTRACTED.

To the Editor of the Boston Medical and Surgical Journal:

Sir,—One of the most striking instances of the beneficial effects of the “*Letheon*” occurred on Wednesday last, and as everything relating to this matter is now of general and peculiar interest, I notice the facts in the case for the benefit of those who may perhaps be feeling the necessity of, and yet shrinking from, a similar operation. It was the case of a highly respectable and intelligent lady, who had for years been dreading the approach of the moment, which nevertheless was seen to be not far off, when she would be obliged to have all her remaining teeth removed. When it was announced to her that this might be done without occasioning her a particle of suffering, it was rather hoped than believed; yet she resolved at once to try what virtue there was in the “*Letheon*.” Accordingly I met her at her residence, this morning, when I found six or eight friends assembled to see the operation, and among them two personal friends of the medical profession—both of them more than half sceptical as to the result. After the necessary preparations, I administered to her the vapor, and when I observed the indications of its influence upon her, I began the operation, and took out tooth after tooth, until nine had been extracted. During this part of the operation she sat quite still, making occasionally a slight exclamation as a tooth more firm than the others was removed, and I was thus enabled to remove these nine in quite a short space of time. The patient was now allowed to recover her natural condition, and the first remark made by her, while yet only partially conscious, was one of regret that she had gone through all the necessary preparation and

that not a single tooth had been taken out. When, however, she was entirely aroused, upon the assurance by one of the friends that she had already lost nine, she would scarcely credit the statement, nor did she fully realize it until after feeling in the mouth she had ascertained the fact for herself, when she made repeated exclamations of wonder and surprise at the result — declaring that she knew nothing of it whatever — that she had not had one particle of pain or inconvenience. After an interval of about half an hour, the “Letheon” was again administered, when eight more teeth were extracted, making seventeen in all. After the effects of the vapor had entirely subsided, she remarked that it was exceedingly difficult to realize the fact — that this so long dreaded operation had been concluded without giving her any suffering; declaring that in neither the first nor in the second part of the operation had she the faintest conception of what was being done, and could scarcely restrain her exclamations of astonishment and thankfulness at what had taken place, assuring us again and again that she had felt nothing — absolutely nothing. The medical gentlemen, as well as others present, were completely satisfied with the result of the operation, and could not but sympathize with the feeling of grateful wonder manifested by the patient.

Yours respectfully, HORACE KIMBALL, M. D.

522 Broadway, New York, Dec. 30th, 1846.

(Boston Traveller.)

“NO MAN CAN TELL WHAT NEW CREATION GENIUS WILL NOT MAKE, OR WHAT NEW WONDER WILL NOT BE INVENTED NEXT.”— Some thirty years ago, patents were not held in much estimation. Then almost any one could procure a patent. But the laws upon the subject were at that time so loose and unprotective, that few patentees could make much profit under them. Of late years, however, the statutes have been enlarged and greatly amended. It was found not only of public importance, but of public necessity, to make enactments expressly encouraging inventors,—to protect them in their just rights, and to insure to them, their heirs and assigns, the same security that had been thrown around all other kinds of property. This led to improvements in almost every branch of the arts and sciences. Hundreds, who had before been deterred, now entered with good will and zeal,—as a matter of business,—into nearly every useful inquiry and experiment. It was speedily found that under the new and better laws, no persons could procure Letters Patent, but those who actually produced new and valuable

inventions. This gradually drove into obscurity all tyros and pretenders; while men of intelligence and ingenuity, in their different vocations, were presented with a fair and vast field for research, or investigation. They hastened to improve it; and the consequence has been a series of discoveries, many of them of extraordinary brilliancy and magnitude,—filling the proper office at Washington with almost innumerable applications for Patents, and creating an almost incredible revenue from this one source, for the General Government; bringing in return constant and large gains to the inventors, and enabling them again to furnish the public with a multitude of new and superior articles of comfort, elegance, luxury or usefulness,—such indeed, as, if had at all, could not otherwise be procured without extreme difficulty, and long delays, or exorbitant prices. These favoring laws, together with the broad shield thrown over real or worthy discoverers and enterprising citizens, by the sustaining rules of the courts, and the just verdicts of the juries, have unquestionably tended, more than all other circumstances combined, to bring about this desirable result; and men of industry and inventive faculties or talent, being now cheered onward in the path of their studies and labors to an extent unknown in any former period, are filling the land with so many and such beautiful, novel, extraordinary and invaluable productions, that it is almost impossible not to join in the general exclamation,—“No man can tell what new creation or wonder will not be invented next,” to minister to the necessities, the health, pleasure or happiness of the human race.

We have been led to these observations from a casual knowledge of two remarkable discoveries, one of which has recently been brought out to public notice, and the other of which has been gradually making its way before the people in this country. We refer to the **LETHEON**, and to the **SOLAR ILLUMINATING GAS**.

The former was conceived and reduced to practice a few months since by Drs. Morton and Jackson, of this city; and having been immediately patented here and in other parts of the world, and introduced without delay into general use, may now be said to be a celebrated, as well as an inestimable discovery. Rights under the Patent have, it is understood, been disposed of by Dr. Morton, in most of the capitals of the Union, and from the extensive collateral business it is bringing that very skilful Dentist, as well as the income he must be receiving under his exclusive rights, promises an ample fortune to its possessor.

The latter, or Solar Gas, although of older date, is not so generally known and appreciated. But if it be of slower growth, it bids fair to be not less certain, lucrative or permanent in its results. It was invented by an English chemist, of the name of Crutchett. This Gas is employed expressly for illumination. The mode of making and using it, in conjunction with various parts of the ingenious apparatus, form the subject of his patents, which were ta-

ken out in England first, and then in the United States. This Solar Gas is made from common oil or ordinary fatty matter, and is declared to be more than sixty per cent. cheaper than, and at the same time, altogether superior in its effulgence and in every respect, to that made from coal. It is now used in numerous churches, factories, hotels, steamboats and cities at the West and South. Rights under the Patent have been sold in all the principal States; and as the apparatus can be had on moderate terms, and for lighting a city, for instance, does not require more than a third or fourth of the room now occupied by the large and expensive works necessary for the production of coal gas,—it seems destined to be introduced into all the small business towns, as well as the most populous places.

Since writing the above, it is stated that the exclusive right to the Solar Gas apparatus has been purchased for Massachusetts and several other New England States, by a company of enterprising and successful gentlemen of this city; and that they have already erected their machinery at East Boston, where it may now be seen in full operation.

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INSENSIBILITY DURING SURGICAL OPERATIONS PRODUCED BY INHALATION.

To the Editor of the Boston Medical and Surgical Journal.

Sir,—I observe in the last No. of your Journal an article entitled "The Inhalation of an Ethereal Vapor to prevent Sensibility to Pain," &c., signed by J. F. Flagg, M. D., a considerable part of which is devoted to comments upon a paper of mine in the same Journal of the date of Nov. 18th, 1846.

Any one who will trouble himself to examine that paper, will find there a narrative of physiological facts observed by myself, with a few concluding remarks connected with the patent right; intended chiefly to inform the medical profession, at the request of the inventors, that every practical facility would be afforded to them in the use of their new process. It was far from my intention to take any part in any differences likely to arise from the invasion of the patent, and I indulged the belief that I had avoided any points of a controversial character.

It may be necessary, however, to notice one or two points in the communication of Dr. Flagg, but I do so with regret that they should have emanated from so respectable a quarter. I disclaim any interest of any kind whatever in the matter under discussion, except the heartfelt desire I have, in common, I believe, with almost every man in the community, that full justice should be done to the inventors of a method by which the whole human race is

benefited; and I regret that an article embodying, as I believe this does, the views of those who would appropriate to their own advantage the discovery of others, should have first emanated from a gentleman for whose position I entertain, in common with others, much respect.

I am free to say that I believe many persons besides myself would have been gratified if this invention could have been issued to the world unfettered by any restrictions of law or private right. But when your correspondent, in his anxiety to take possession of the invention, refuses to allow to Drs. Jackson and Morton any right to their discovery, or to admit any "apology" for the patent, I am ready to show what I consider their right to be; and shall also take the liberty to examine how far Dr. Flagg has sustained his position.

The history of inventions is well known. Some fortunate individual makes a discovery. The individual is frequently not he who has investigated the most deeply or theorized the longest upon the subject; though the discovery itself is all the evidence the public can require, of his right to receive for it an equivalent. But no sooner is the discovery announced, than a multitude of individuals begin to recognize their own claims to a reward; and we hear that "there was nothing new in the discovery," "they were quite near it," "they had produced the same effect." It is rare, however, that a man who offers no evidence of any participation in a discovery, as in the present instance, openly avows his intention to share in the profits. This point deserves further consideration.

The inventors of a method of producing insensibility by inhalation, have shown an almost infallible way of annihilating the pain of some of the most formidable surgical operations. If any plan were to have been devised for promoting the comfort of the race, it would have been difficult to suggest one so wide in its application, as that which should obliterate sensibility at will; which should mitigate the sufferings of those who are called upon to endure pain in its most atrocious forms. If any individuals have bestowed this inestimable boon upon the race, they have a right to the race for a substantial return in some shape or other. Who, then, are these individuals? I can find no evidence that the invention would not have slept for twenty years longer, had not Drs. Morton and Jackson demonstrated it to the public.

I have no prepossession in favor of the tribe of *ex post facto* inventors, who always settle like parasites upon every recent invention of any pecuniary value. Either the discovery was previously made, or it was not. If it was, we have only the alternative of supposing, that the fortunate individual saw fit, for some inexplicable reason, to keep in his own bosom a secret, which he knew to be of inestimable value to the whole human family. I prefer to believe it was not.

But what sort of claim is now made to previous knowledge

upon the subject? Is the maid servant mentioned by Dr. Christison, who died in the cause, to be held as the discoverer? Or the gentleman who recovered from his lethargy? Or yet your correspondent who "almost fell asleep"? Obviously not. These facts were mere suggestions, pointing to a hypothetic principle; and it was the business of those who received such hints to have pursued them till the single fact was generalized and the principle established. Drs. Morton and Jackson have done all this. They have struck out a new path; and even when future science shall have abridged and improved the present method, or substituted another for it, it will not detract in the slightest degree from the merit of the original discoverers of a great and novel principle.

It is fair to pre-suppose that your correspondent has ample grounds for availing himself of this discovery, without offering to the inventors a recompense. I shall examine these, as far as I am able to understand them. And, first, let me separate the question of legal right from that of common right and justice. With the former I have nothing to do. It can be only decided by those who possess competent legal knowledge. Your correspondent exclaims, "What is patented? A power? A principle? A natural effect? The operation of a well-known medicinal agent? I doubt the validity of such letters patent. It would seem to me like *patent sunlight or patent moon-shine*." This figurative expression of Dr. Flagg's legal opinion may be of great value, but it may be mentioned that the inventors have on the other hand the opinions of several eminent authorities and also that of the commissioners at Washington, that the patent is perfectly valid and tenable. Leaving, then, for those who are competent to it, the discussion of the law of the question, I shall inquire on what grounds of professional right or of common justice your correspondent proposes to appropriate this discovery.

In the first place he objects to the use of patent or secret medicines. "I shall not," says he, "obtain and use it as a secret medicine; I shall not purchase and use it as a patent medicine," apparently on the ground that "the enlightened and regular medical faculty of Massachusetts * * * * are associated and have arrayed themselves against all secret remedies or patent medicines, and therefore cannot feel themselves at liberty," &c. &c. "But," says he in another place, "I shall use it." The scruples of your correspondent lie, then, not against the use of the discovery, but against the purchase of it. I shall attempt to remove all hesitation he may have upon this point.

In so doing I may state that as far as my humble influence was concerned, I urged the adoption of the new method in one at least of the early cases which occurred at the Hospital, without consulting the by-laws of the Massachusetts Medical Society, in full reliance upon the wisdom and liberality of the framers of that code. A subsequent examination of it has confirmed my position. I am unable to find any law bearing directly or indirectly upon the

present case. The tenth by-law of the Massachusetts Medical Society is directed, as I understand it, against any one who shall publicly advertise or publicly offer to cure disease by medicine, the composition of which he the advertiser makes a secret. It deals with the question of proclaimed secrecy; and in my view is directed against that prudish class of practitioners whose ostentatious solicitude to conceal their wares, is their only chance of persuading people of their value. The same remarks apply to the fifty-eighth by-law. I leave others to judge of the propriety of applying such restrictions to a method which has been publicly registered, which has been voluntarily announced to every surgeon who has used it, and of which the immense utility is universally conceded. I am unable to discover that your correspondent has here any ground for his scruples about purchasing a right.

But, says he, "No man can restrict them from using what is used for the relief of suffering humanity." It is, then, "suffering humanity" which compels them to share in the equivalent which the public is returning to the inventors. But why not send "suffering humanity" to Dr. Morton, or call him to its aid? Dr. Morton has made ample arrangements for its reception at No. 19, Tremont Row, or for its relief at the houses of other dentists. — When the papers coolly announce, "the best method in use for narcotizing patients," or "the improved method," I for one enjoy the audacity of those who assert their intention to have a share in any profits to be made. But it is painful that any man should be compelled by his conscience to receive a part of the substantial gratitude of suffering humanity, when they to whom alone its gratitude is due, have made ample arrangements for its relief.

I confess my inability to follow your correspondent in a large part of his argument, and shall therefore only allude to it. He says, "the free use of the article has been ceded to the surgeons of the Massachusetts General Hospital, and these gentlemen would receive it or adopt its use on no other condition, of course, than that of knowing what it was, and having full and free control of it for that institution. Hence, I ask why * * * * * why I must now purchase the right to use it?"

Again, "If it is simple sulphuric ether, I shall use it; * * * * * if it is a compound, ("it is said to be ceded to the surgeons of the Hospital * * * * * and if known to medical students who attend that institution * * * * * no one can rightly restrict them, and,") it will become free."

I can only interpret these logical sequences upon the ground that your correspondent confounds the question of secret and that of patent, and infers that what is no longer secret is no longer patent. It is understood that the matter was secret just so long as was necessary to secure patents here and elsewhere, and no longer. But the fact of its subsequent publicity does not change the question of property. The discovery and the patent right still belong to the inventors, and your correspondent, and whoever else of us

wishes to avail himself of it, must accede to their very reasonable terms.

It remains to say a word with regard to three very inoffensive "apologies;" "two of which" your correspondent considers to be "without force," while "the total incorrectness of the main part of the third, must be apparent to all." I am unable to see that your correspondent has invalidated the force of the two first. With the intention of testing the correctness of my statement that certain secrets are conventional among dentists, I have applied to three of the most eminent dentists of this city, and to whom I can refer your correspondent, who do not hesitate to state that they are so. But if Dr. Flagg still holds that he "does not know of anything which is practised in dentistry, even relating to the mechanical department, which is kept secret by duly educated dentists," I know no way in which, according to his own views, he could contribute more directly to the cause of "suffering humanity," than by volunteering to communicate to "duly educated dentists," for the mere equivalent of the time occupied in so doing, a concise account of his methods in some of the more recondite departments of his art; for example, in the composition and manufacture of mineral teeth. I am confident that the number of applicants who would amply compensate him for his time, would testify at once to the demand for this sort of knowledge, both in town and in the country, and to the general appreciation of his skill.

I have been led to exceed my intended limits, because I was desirous of answering in some measure, a class of objectors of whom I regret that your correspondent should be the representative. No one can doubt that an inestimable discovery has been made. Though it may be regretted that it has not been made free to all, yet the inventors have an undoubted legal right to pursue with regard to it whatever course may seem to them best. — They have made arrangements which place it at the command of any who are disposed to avail themselves of it,* and I cannot but think that the community, if not the government, will be forward in recognizing the magnitude of their claims.

I have only to add, that I am not ambitious of controversy, and that I shall make no further communication upon this part of the subject, unless the position I have here assumed shall seem to me to be in any way invalidated.

Your obedient servant,

Boston, Dec. 4th, 1846.

HENRY J. BIGELOW.

* I had occasion, a few days since, to tie the femoral artery of a patient who was unable to pay for the operation. I found no difficulty in obtaining the gratuitous use of the method; nor do I conceive that others would, in similar circumstances. It may be added that the patient was wholly unconscious of the dissection.

H. J. B.

[Buffalo Medical Journal]

INSENSIBILITY DURING SURGICAL OPERATIONS, PRODUCED BY INHALATION.—We had heard through a private source of a late discovery at Boston, Mass., by which teeth were extracted, and other severe surgical operations performed during a state of insensibility to pain, and partial unconsciousness, produced by inhaling a medicinal preparation. In the Boston Med. and Surg. Journal, Nov. 18th, we find a report on the subject, read before the Boston Society of medical improvement, by Henry Jacob Bigelow, M. D., one of the surgeons of the Mass. General Hospital. Several operations have been performed at the Hospital by Drs. Warren and Hayward, apparently without any, or with trifling pain. Dr. Bigelow states that no doubts existed in the minds of those who witnessed the operations that the unconsciousness was real, nor could the result be attributed in any degree to the imagination. Dr. B. thinks it promises to be one of the important discoveries of the age. In our next number we will give extracts from the report presenting the details of the cases in which the experiments were made. The invention has been patented in the names of Dr. Chas. T. Jackson, the distinguished chemist, and Dr. Morton, dentist, of Boston. Coming as the facts do, from a source which renders their authenticity unquestionable, they will be regarded with great interest by the profession and public. Assuredly the discovery of a perfectly safe method of divesting operations of pain, would constitute an epoch in the history of medicine, scarcely less prominent than that of vaccination by Jenner.

 [Boston Post.]

THE GREAT SURGICAL DISCOVERY.—The most eminent solicitor on patents at Washington, and also Messrs. Webster, Choate, and the other legal advisers retained by the patentees, have, we understand from a source to be relied on, given their decided opinions in favor of the novelty of the invention made by Drs. Morton and Jackson of this city, by which pain is prevented in surgical operations, and the entire validity of the patents granted by the United States. We also learn that Drs. Warren, Hayward, C. T. Jackson and Morton, each positively denies that this extraordinary invention was ever made known to them by any person prior to its discovery by Drs. Morton and Jackson in this city.

B. D.

THIS Circular will continue to be printed and circulated as far as shall be deemed practicable.

W. T. G. MORTON.